Safety Attribute Inspection (SAI) Data Collection Tool 1.3.17 Weight and Balance Program (AW)

ELEMENT SUMMARY INFORMATION

Purpose of This Element (Certificate Holder's responsibility):

• To provide policy, methods, procedures, instructions and/or information in the manual which allows personnel concerned with the Weight and Balance Program to perform their duties and responsibilities to a high degree of safety.

Objective (FAA oversight responsibility):

- To determine if the Certificate Holder's Weight and Balance Program meets all applicable requirements of the Federal Aviation Regulations and FAA policies.
- To determine if the Certificate Holder's Weight and Balance Program incorporates the System Safety Attributes.
- To identify any shortfalls in the Certificate Holder's Weight and Balance Program.

SUPPLEMENTAL INFORMATION

Specific Regulatory Requirement(s) (SRRs):

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• SRRs:
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119.43(b)

119.43(b)(1)

119.43(b)(2)

119.43(c)

119.49(a)(9)

119.49(b)(9)

121.135(a)(1)

121.135(b)(1)

121.135(b)(2)

121.135(b)(20)

121.135(b)(3)

121.153(b)

E096 Weight and Balance Control Procedures

E096(d)

Related CFR(s) & FAA Policy/Guidance:

Related CFRs:

• FAA Policy/Guidance:

FAA Order 8300.10, Volume 2, Chapter 73 FAA Order 8300.10, Volume 2, Chapter 74 AC-120-27C

SAI SECTION 1 – PROCEDURES ATTRIBUTE

Objective: Procedures, instructions and information contained in Certificate Holder's manual are documented methods for accomplishing a process. Policies contained in the Certificate Holder's manual should establish the Certificate Holder's compliance posture. Policies may not be stand—alone statements but may be imbedded within procedures, instructions or information regarding a particular regulatory requirement. The questions in this section of the data collection tool are designed to assist the inspector in determining if the Certificate Holder's manual has documented or prescribed methods of accomplishing the process requirements that provide answers to the associated who, what, when, where and how type questions. This section of the data collection tool contains policy questions, procedural questions and instructional or informational questions pertaining to various types of Certificate Holder requirements such as actions, prohibitions or resources (i.e., personnel, facilities, equipment, technical data, etc.).

Tasks

To meet this objective, the inspector must accomplish the following tasks:

- 1 Review the information listed in the Supplemental Information section of this data collection tool.
- 2 Review the duties and responsibilities for management and other personnel identified by the Certificate Holder who accomplish the Weight and Balance Program.
- Review the Certificate Holder's manual to ensure that it contains policies, procedures, instructions and information necessary for the Weight and Balance Program.

Questions

To meet this objective, the inspector must answer the following questions:

- Does the Certificate Holder's manual content meet the specific regulatory and FAA policy requirements for a Weight and Balance Program:
- 1.1 Does the Certificate Holder's manual contain general policies for the Weight and Balance Program that comply with the specific regulatory requirements?

SRRs: 121.135(b)(1); 121.135(b)(20); E096(d)

Related Design JTIs:

 Check that the Certificate Holder's manual system contains a general policy for weighing aircraft in accordance with the procedures for establishing individual aircraft weights as outlined in the operator's weight and balance control program.

Sources: 121.135(b)(1); E096(d)

Interfaces: All of 2.1; All of 7.1; 1.1.1-aw; 1.1.2-aw; 1.1.2-op;

1.2.2-aw; 1.3.7-aw; 1.3.9-aw; 3.2.2-op; 4.2.1-aw

 Check that the Certificate Holder's manual system contains a general policy for weighing aircraft in accordance with the procedures for establishing fleet aircraft weights as outlined in the operator's weight and balance control program.

Sources: 121.135(b)(1); E096(d)

Interfaces: All of 2.1; All of 7.1; 1.1.1-aw; 1.1.2-aw; 1.1.2-op;

1.2.2-aw; 1.3.7-aw; 1.3.9-aw; 3.2.2-op; 4.2.1-aw

 Check that the Certificate Holder's manual system contains a general policy regarding the use of an approved weight and balance control system based on average, assumed, or estimated weight to comply Yes

☐ No, Explain

	with applicable airworthiness requirements and operating limitations. Sources: 121.153(b); 121.135(b)(1) Interfaces: All of 2.1; All of 7.1; 1.1.1–aw; 1.1.2–aw; 1.1.2–op; 1.2.2–aw; 1.3.7–aw; 1.3.9–aw; 3.2.2–op; 4.2.1–aw	
1.2	Does the Certificate Holder's manual cite the regulatory requirements listed in the Supplemental Information section of this SAI? SRRs: 121.135(b)(3)	☐ Yes ☐ No, Explain
1.3	Does the Certificate Holder's manual contain the duties and responsibilities for personnel who will accomplish the Weight and Balance Program? SRRs: 121.135(b)(2)	☐ Yes ☐ No, Explain
1.4	Does the Certificate Holder's manual include instructions and information for personnel to meet the requirements of the Weight and Balance Program? SRRs: 121.135(a)(1)	☐ Yes ☐ No, Explain
1.5	Does the Certificate Holder's manual contain methods and procedures for maintaining the aircraft weight and center of gravity within approved limits? SRRs: 121.135(b)(20) Related Design JTIs: Check that the Certificate Holder's manual system includes instructions and information necessary to allow personnel concerned to perform the duty and responsibility of weighing their aircraft in accordance with the procedures established for individual aircraft weights outlined in the operator's weight and balance control program. Sources: 121.135(a)(1); E096(d) Interfaces: All of 2.1; All of 7.1; 1.1.1-aw; 1.1.2-aw; 1.1.2-op; 1.2.2-aw; 1.3.7-aw; 1.3.9-aw; 3.2.2-op; 4.2.1-aw Check that the Certificate Holder's manual system includes instructions and information necessary to allow personnel concerned to perform the duty and responsibility for the methods and procedures for maintaining the aircraft weight and center of gravity within approved limits. Sources: 121.135(a)(1); 121.135(b)(20) Interfaces: All of 2.1; All of 7.1; 1.1.1-aw; 1.1.2-aw; 1.1.2-op; 1.2.2-aw; 1.3.7-aw; 1.3.9-aw; 3.2.2-op; 4.2.1-aw	☐ Yes ☐ No, Explain
1.6	Does the Certificate Holder's Weight and Balance Program contain methor procedures for: SRRs: 121.135(b)(20)	ds and
1.6.	1 Establishing individual aircraft weights? SRRs: E096(d)	☐ Yes ☐ No, Explain ☐ Not Applicable
1.6.	2 Establishing fleet aircraft weights? SRRs: E096(d)	☐ Yes ☐ No, Explain ☐ Not
	Related Design JTIs:Check that the Certificate Holder's manual system includes	Applicable

instructions and information necessary to allow personnel concerned to perform the duty and responsibility of weighing their aircraft in accordance with the procedures established for fleet aircraft weights outlined in the operator's weight and balance control program. Sources: 121.135(a)(1); E096(d) Interfaces: All of 2.1; All of 7.1; 1.1.1–aw; 1.1.2–aw; 1.1.2–op; 1.2.2–aw; 1.3.7–aw; 1.3.9–aw; 3.2.2–op; 4.2.1–aw	
1.7 Does the Certificate Holder's manual contain methods and procedures for aircraft in accordance with: SRRs: 121.135(b)(20); E096(d)	weighing all
1.7.1 Established individual aircraft weights outlined in the Weight and Balance Program? SRRs: E096(d)	☐ Yes ☐ No, Explain ☐ Not Applicable
1.7.2 Established fleet aircraft weights outlined in the Weight and Balance Program? SRRs: E096(d)	Yes No, Explain Not Applicable
1.8 If the Certificate Holder uses an approved Weight and Balance Program, of Certificate Holder's manual, based on average, assumed, or estimated we procedures for: SRRs: 121.135(b)(20); 121.153(b)	
 1.8.1 Average weight that complies with applicable airworthiness requirements, and operating limitations? SRRs: 121.153(b) Related Design JTIs: Check that the Certificate Holder's manual system includes instructions and information necessary to allow personnel concerned to perform the duty and responsibilities for their weight and balance control system based on average weight to comply with applicable airworthiness requirements and operating limitations. Sources: 121.153(b); 121.135(a)(1) Interfaces: All of 2.1; All of 7.1; 1.1.1-aw; 1.1.2-aw; 1.1.2-op; 1.2.2-aw; 1.3.7-aw; 1.3.9-aw; 3.2.2-op; 4.2.1-aw 	☐ Yes ☐ No, Explain ☐ Not Applicable
 1.8.2 Assumed weight that complies with applicable airworthiness requirements, and operating limitations? SRRs: 121.153(b) Related Design JTIs: Check that the Certificate Holder's manual system includes instructions and information necessary to allow personnel concerned to perform the duty and responsibilities for their weight and balance control system based on assumed weight to comply with applicable airworthiness requirements and operating limitations. Sources: 121.153(b); 121.135(a)(1) Interfaces: All of 2.1; All of 7.1; 1.1.1–aw; 1.1.2–aw; 1.1.2–op; 1.2.2–aw; 1.3.7–aw; 1.3.9–aw; 3.2.2–op; 4.2.1–aw 	☐ Yes ☐ No, Explain ☐ Not Applicable

 1.8.3 Estimated weight that complies with applicable airworthiness requirements, and operating limitations? SRRs: 121.153(b) Related Design JTIs: Check that the Certificate Holder's manual system includes instructions and information necessary to allow personnel concerned to perform the duty and responsibilities for their weight and balance control system based on estimated weight to comply with applicable airworthiness requirements and operating limitations. Sources: 121.153(b); 121.135(a)(1) Interfaces: All of 2.1; All of 7.1; 1.1.1-aw; 1.1.2-aw; 1.1.2-op; 1.2.2-aw; 1.3.7-aw; 1.3.9-aw; 3.2.2-op; 4.2.1-aw 	Yes No, Explain Not Applicable
 1.9 Does the Certificate Holder's operations specifications contain authorization for the method of controlling the weight and balance of the aircraft? SRRs: 119.49(a)(9); 119.49(b)(9); E096 Weight and Balance Control Procedures Related Design JTIs: • Check that the Certificate Holder manual system contains procedures to maintain control of weight and balance of the Certificate Holder's aircraft operated under the terms of the Operations Specifications, paragraph d. of E096. Sources: 119.49(a)(9); 119.49(b)(9); E096 Weight and Balance Continence Procedures Interfaces: All of 2.1; All of 7.1; 1.1.1–aw; 1.1.2–aw; 1.1.2–op; 1.2.2–aw; 1.3.7–aw; 1.3.9–aw; 3.2.2–op; 4.2.1–aw 	Yes No, Explain
1.10 Does the Certificate Holder's manual contain the required references to or excerpts from, operations specification paragraph E096? SRRs: 119.43(b)	Yes ☐ No, Explain
1.11 If the Certificate Holder's manual includes excerpts from its operations specifications, are the excerpts clearly identified as part of its operation specifications? SRRs: 119.43(b)(1)	Yes No, Explain Not Applicable
1.12 Does the Certificate Holder's manual require compliance with operation specifications paragraph E096? SRRs: 119.43(b)(2)	Yes No, Explain
1.13 Does the Certificate Holder's manual contain a method for keeping all persons engaged in its operations informed of the provisions of operations specifications paragraph E096(d)? SRRs: 119.43(c)	☐ Yes ☐ No, Explain

1.14 Does the Certificate Holder's Weight and Balance Program comply with the guidance contained in FAA Order 8300.10?	☐ Yes ☐ No, Explain
 Related Design JTIs: Check that the Certificate Holder's manual system contains procedures to substantiate that its weight and balance program is amended to accommodate leased aircraft if they intend to maintain it in accordance with the lessor's program. Sources: 8300.10, Volume 2, Chapter 73, Section 1, Paragraph 7(8); ; 8300.10 Volume 2, Chapter 74,; Section 2,; Paragraph 5B (8) Interfaces: All of 2.1; 3.1.11-op; 3.1.5-op; 3.1.8-op; 3.1.9-op; 	
 3.2.2-op; 4.2.3-op; 4.2.5-op; 4.2.6-op; 5.1.1-aw Check that the Certificate Holder's manual system contains procedures that under a short term lease arrangement using the lessor's maintenance program, the lessee has the current weight and balance data for any leased aircraft. 	
Sources: 8300.10, Volume 2, Chapter 73, Section 2, Paragraph 5(A)4 8300.10 Volume 2, Chapter 74, Section 2, Paragraph 5B (8) Interfaces: All of 2.1; 3.1.11–op; 3.1.5–op; 3.1.8–op; 3.1.9–op; 3.2.2–op; 4.2.3–op; 4.2.5–op; 4.2.6–op; 5.1.1–aw • Check that the Certificate Holder's manual system includes approved	
methods or procedures for periodically re–weighing and data reevaluation of their aircraft. Sources: 8300.10, Volume 2, Chapter 74, Section 1, Paragraph 5B 8300.10, Volume 2, Chapter 74, Section 2, Paragraph 5B(8) Interfaces: All of 2.1; 1.3.7–aw; 1.3.8–aw; 3.1.11–op; 3.1.8–op;	
 3.1.9-op; 3.2.2-op; 4.2.5-op; 7.1.1-aw; 7.1.2-aw Check that the Certificate Holder's manual system includes approved methods or procedures for aircraft so they will not exceed the authorized weight and balance limitations during all ground and flight operations. Sources: 8300.10 Volume 2, Chapter 74, Section 1 Paragraph5B Interfaces: All of 2.1; All of 7.1; 1.1.1-aw; 1.1.2-aw; 1.1.2-op; 	
 1.2.2-aw; 1.3.7-aw; 1.3.9-aw; 3.2.2-op; 4.2.1-aw Check that the Certificate Holder's manual system includes approved methods or procedures for monitoring aircraft individual or fleet empty weight, and CG to have its data recalculated, if changes necessitate. Sources: 8300.10 Volume 2, Chapter 74, Section 1 Paragraph5B 8300.10, Volume 2, Chapter 74, Section 2, Paragraph 5B(8) Interfaces: All of 2.1; All of 7.1; 1.1.1-aw; 1.1.2-aw; 1.1.2-op; 	
 1.2.2-aw; 1.3.7-aw; 1.3.9-aw; 3.2.2-op; 4.2.1-aw Check that the Certificate Holder's manual system contains procedures for weighing aircraft at intervals approved by the PMI. Sources: 8300.10, Volume 2, Chapter 74, Section 1, Paragraph 13A(2) 8300.10 Volume 2, Chapter 74, Section 2, Paragraph 5B (8) Interfaces: All of 2.1; 1.3.7-aw; 1.3.8-aw; 3.1.11-op; 3.1.9-op; 3.2.2-op; 4.2.1-aw; 7.1.1-aw; 7.1.2-aw 	
 Check that the Certificate Holder's manual system contains procedures for the initial weighing of aircraft. Sources: 8300.10, Volume 2, Chapter 74, Section 2, Paragraph 5B(8) 	

Interfaces: All of 2.1; 1.1.1–aw; 1.3.14–aw; 1.3.7–aw; 1.3.8–aw; 4.2.1–aw; 7.1.1–aw; 7.1.2–aw; 7.1.6–aw

- Check that the Certificate Holder's manual system contains procedures that a fleet generally is considered to be three or more aircraft of the same model and configuration and when aircraft are operating under fleet weights, they must be weighed in accordance with the operator/applicant's instructions. The operating weights and CG position must be within established limits.
 Sources: 8300.10 Volume 2, Chapter 74, Section 1 Paragraph 13B(1) 8300.10 Volume 2, Chapter 74, Section 2, Paragraph 5B (8) Interfaces: All of 2.1; All of 7.1; 1.1.1-aw; 1.1.2-aw; 1.1.2-op; 1.2.2-aw; 1.3.7-aw; 1.3.9-aw; 3.2.2-op; 4.2.1-aw
- Check that the Certificate Holder's manual system contains procedures that when aircraft are operating under fleet weights, the operating weights and CG position must be within established limits. Sources: 8300.10 Volume 2, Chapter 74, Section 1 Paragraph 13B(1) 8300.10 Volume 2, Chapter 74, Section 2, Paragraph 5B (8) Interfaces: All of 2.1; All of 7.1; 1.1.1-aw; 1.1.2-aw; 1.1.2-op; 1.2.2-aw; 1.3.7-aw; 1.3.9-aw; 3.2.2-op; 4.2.1-aw
- Check that the Certificate Holder's manual system contains procedures for determining empty fleet weight by averaging aircraft weights as referenced in 8300.10, Volume 2, Chapter 74, Section, Paragraph 13B(2).
 - Sources: 8300.10, Volume 2, Chapter 74, Section 1, Paragraph 13B(2) 8300.10 Volume 2, Chapter 74, Section 2, Paragraph 5B (8) Interfaces: All of 2.1; 1.3.7–aw; 1.3.8–aw; 3.1.11–op; 3.1.9–op; 3.2.2–op; 4.2.1–aw; 7.1.1–aw; 7.1.2–aw
- Check that the Certificate Holder's manual system contains procedures for pre-weighing instructions and requirements to be met.
 Sources: 8300.10, Volume 2, Chapter 74, Section 2, Paragraph 5B(8) Interfaces: All of 2.1; 1.1.1-aw; 1.3.14-aw; 1.3.7-aw; 1.3.8-aw; 4.2.1-aw; 7.1.1-aw; 7.1.2-aw; 7.1.6-aw
- Check that the Certificate Holder's manual system contains procedures for establishing and maintaining equipment lists for each aircraft.
 Sources: 8300.10, Volume 2, Chapter 74, Section 2, Paragraph 5B(8) Interfaces: All of 2.1; 1.1.1-aw; 1.3.14-aw; 1.3.7-aw; 1.3.8-aw; 4.2.1-aw; 7.1.1-aw; 7.1.2-aw; 7.1.6-aw
- Check that the Certificate Holder's manual system contains procedures for recording the airplane weight, residual fluids, scale tare weights and type and serial number for each scale used. Sources: 8300.10, Volume 2, Chapter 74, Section 2, Paragraph 5B(8) Interfaces: All of 2.1; 1.1.1-aw; 1.3.14-aw; 1.3.7-aw; 1.3.8-aw; 4.2.1-aw; 7.1.1-aw; 7.1.2-aw; 7.1.6-aw
- Check that the Certificate Holder's manual system contains procedures for ensuring aircraft are configured in accordance with approved data. Sources: 8300.10, Volume 2, Chapter 74, Section 2, Paragraph 5B(8) Interfaces: All of 2.1; 1.1.1-aw; 1.3.14-aw; 1.3.7-aw; 1.3.8-aw; 4.2.1-aw; 7.1.1-aw; 7.1.2-aw; 7.1.6-aw
- Check that the Certificate Holder's manual system contains procedures for determining standards and schedules for calibration of aircraft

scales.

Sources: 8300.10, Volume 2, Chapter 74, Section 2, Paragraph 5B(8) Interfaces: All of 2.1; 1.1.1-aw; 1.3.14-aw; 1.3.7-aw; 1.3.8-aw; 4.2.1-aw; 7.1.1-aw; 7.1.2-aw; 7.1.6-aw

 Check that the Certificate Holder's manual system contains procedures that scales used to weigh aircraft are calibrated and traceable to a national standard.

Sources: 8300.10, Volume 2, Chapter 74, Section 1, Paragraph 13C AC 120-27C Paragraph 7 f

Interfaces: All of 2.1; 1.3.7-aw; 1.3.8-aw; 3.1.11-op; 3.1.5-op; 4.2.6-op; 7.1.1-aw; 7.1.2-aw

 Check that the Certificate Holder's manual system contains procedures to use scales that are properly calibrated, zeroed, and used in accordance with the manufacturer's instructions.

Sources: 8300.10, Volume 2, Chapter 74, Section 1, Paragraph 13C AC 120-27C Paragraph 7 f

Interfaces: All of 2.1; All of 7.1; 1.1.1-aw; 1.1.2-aw; 1.1.2-op; 1.2.2-aw; 1.3.7-aw; 1.3.9-aw; 3.2.2-op; 4.2.1-aw

 Check that the Certificate Holder's manual system contains procedures to have scales periodically calibrated either by the manufacturer or in accordance with the civil authority for weights and measures having iurisdiction over the area in which the scales are used, as recommended in the manufacturer's calibration schedule. Sources: 8300.10, Volume 2, Chapter 74, Section 1, Paragraph 13C AC 120–27C Paragraph 7 f Interfaces: All of 2.1; 1.3.7-aw; 1.3.8-aw; 3.1.11-op; 3.1.5-op;

4.2.6-op; 7.1.1-aw; 7.1.2-aw

• Check that the Certificate Holder's manual system contains procedures for the frequency of testing of their scales, which depends on use and handling. (If a calibration schedule is not available from the manufacturer, the it is acceptable to use the scale to weigh the aircraft within one year after the calibration of the scale. The operator should have evidence that would justify a safety determination for accepting a longer period between calibrations).

Sources: 8300.10, Volume 2, Chapter 74, Section 1, Paragraph 13C AC 120-27C Paragraph 7 f

Interfaces: All of 2.1; All of 7.1; 1.1.1-aw; 1.1.2-aw; 1.1.2-op; 1.2.2-aw; 1.3.7-aw; 1.3.9-aw; 3.2.2-op; 4.2.1-aw

- Check that the Certificate Holder's manual system contains procedures that if they utilize a contractor to weigh items, the contractor complies with Certificate Holder's approved weight and balance control program, including calibration and testing of scales.
 - Sources: 8300.10, Volume 2, Chapter 74, Section 2, Paragraph 15 8300.10, Volume 2, Chapter 74, Section 2, Paragraph 5B(8) Interfaces: All of 2.1; 1.3.7-aw; 1.3.8-aw; 3.1.11-op; 3.1.5-op; 4.2.6-op; 7.1.1-aw; 7.1.2-aw
- Check that the Certificate Holder's manual system contains procedures to include a description of the organization unit responsible for the control and maintenance of the weight and balance program to include lines of authority and support structure.

SAI Template Template Dated 09/23/03 Sources: 8300.10, Volume 2, Chapter 74, Section 2, Paragraph 5B(4) Interfaces: All of 2.1; 3.1.11-op; 7.1.1-aw; 7.1.2-aw • Check that the Certificate Holder's manual system contains procedures to include the levels of authority for the weight and balance program. Sources: 8300.10 Volume 2, Chapter 74, Section 2, Paragraph 5B(4) Interfaces: All of 2.1; All of 7.1; 1.1.1-aw; 1.1.2-aw; 1.1.2-op; 1.2.2-aw; 1.3.7-aw; 1.3.9-aw; 3.2.2-op; 4.2.1-aw • Check that the Certificate Holder's manual system contains procedures to include job descriptions for all elements. Sources: 8300.10, Volume 2, Chapter 74, Section 2, Paragraph 5B(5) Interfaces: All of 2.1; 3.1.11-op; 7.1.1-aw; 7.1.2-aw Check that the Certificate Holder's manual system contains procedures for a training program, which includes maintenance, operations, dispatch and ground handling personnel. Sources: 8300.10, Volume 2, Chapter 74, Section 2, Paragraph 5B(6) Interfaces: All of 2.1; 3.1.11-op; 4.2.1-aw; 4.2.3-op; 4.2.5-op; 4.2.6-op; 7.1.1-aw; 7.1.2-aw Check that the Certificate Holder's manual system contains procedures for a training program that includes documentation and retention of individual training records. Sources: 8300.10, Volume 2, Chapter 74, Section 2, Paragraph 5B(7) Interfaces: All of 2.1; All of 7.1; 3.1.11-op; 4.2.1-aw; 4.2.3-op; 4.2.5-op; 4.2.6-op Check that the Certificate Holder's manual system contains procedures for aircraft being weighed at international maintenance facilities to use scales that are traceable to NITS. Sources: Safety Interfaces: 1.3.1-aw; 1.3.14-aw; 1.3.7-aw; 3.2.2-op • Check that the Certificate Holder's manual system contains procedures for use of fleet weights if authorized by OpSpecs. Sources: 8300.10 Volume 2, Chapter 74, Section 1 Paragraph 13B(1) 8300.10 Volume 2, Chapter 74, Section 2, Paragraph 5B (8) Interfaces: All of 2.1; All of 7.1; 1.1.1-aw; 1.1.2-aw; 1.1.2-op; 1.2.2-aw; 1.3.7-aw; 1.3.9-aw; 3.2.2-op; 4.2.1-aw ☐ Yes 1.15 Does the Certificate Holder's Weight and Balance Program comply with No, Explain the guidance contained in AC-120-27C?

Related Design JTIs:

 Check that the Certificate Holder's manual system contains procedures to establish the initial empty weight and CG location of new aircraft by using the weight and balance records of the manufacturer if the those records have been adjusted for alterations or modifications to the aircraft.

Sources: AC120-27C Paragraph 7 c 8300.10 Volume 2, Chapter 74, Section 2, Paragraph 5B (8)

Interfaces: All of 2.1; All of 7.1; 1.1.1-aw; 1.1.2-aw; 1.1.2-op;

1.2.2-aw; 1.3.7-aw; 1.3.9-aw; 3.2.2-op; 4.2.1-aw

 Check that the Certificate Holder's manual system contains procedures to establish the initial empty weight and CG location of aircraft transferred from one operator, to another. If, each operator has an

approved weight and balance program it need not be re-weighed prior to use by the receiving operator unless more than 36 calendar months have elapsed since last weighing.

Sources: AC120–27C Paragraph 7 c 8300.10 Volume 2, Chapter 74, Section 2, Paragraph 5B (8)

Interfaces: All of 2.1; All of 7.1; 1.1.1–aw; 1.1.2–aw; 1.1.2–op; 1.2.2–aw; 1.3.7–aw; 1.3.9–aw; 3.2.2–op; 4.2.1–aw

• Check that the Certificate Holder's manual system contains procedures to establish the initial empty weight and CG location of aircraft transferred, purchased or leased from an operator without an approved weight and balance program. These aircraft can be placed into service without being re-weighed if the last weighing was accomplished by an acceptable method and was within the last 12calendar months. Sources: AC120-27C Paragraph 7 c 8300.10 Volume 2, Chapter 74, Section 2, Paragraph 5B (8) Interfaces: All of 2.1; All of 7.1; 1.1.1-aw; 1.1.2-aw; 1.1.2-op; 1.2.2-aw; 1.3.7-aw; 1.3.9-aw; 3.2.2-op; 4.2.1-aw

Check that the Certificate Holder's manual system contains procedures
to reestablished by computing or re-weighing the aircraft whenever the
cumulative change to the operating weight exceeds plus or minus
one-half of 1 percent of the maximum landing weight or the cumulative
change in the CG position exceeds one-half of 1 percent of the mean
aerodynamic chord (MAC).

Sources: AC 120–27C Paragraph 7 a 8300.10 Volume 2, Chapter 74, Section 2, Paragraph 5B (8)

Interfaces: All of 2.1; All of 7.1; 1.1.1–aw; 1.1.2–aw; 1.1.2–op; 1.2.2–aw; 1.3.7–aw; 1.3.9–aw; 3.2.2–op; 4.2.1–aw

 Check that the Certificate Holder's manual system contains procedures that when calculating fleet weight, when choosing the aircraft to be weighed, the aircraft in the fleet having the highest time since last weighing should be selected.

Sources: AC 120–27C Paragraph 7 b (2) 8300.10 Volume 2, Chapter 74, Section 2, Paragraph 5B (8)

Interfaces: All of 2.1; All of 7.1; 1.1.1–aw; 1.1.2–aw; 1.1.2–op; 1.2.2–aw; 1.3.7–aw; 1.3.9–aw; 3.2.2–op; 4.2.1–aw

 Check that the Certificate Holder's manual system contains procedures that when calculating fleet weight, when the average empty weight and CG position have been determined for aircraft weighed and the fleet operating weight established, the necessary data should be computed for aircraft not weighed but which are considered eligible under such fleet weight.

Sources: AC 120–27C Paragraph 7 b (2) 8300.10 Volume 2, Chapter 74, Section 2, Paragraph 5B (8)

Interfaces: All of 2.1; All of 7.1; 1.1.1–aw; 1.1.2–aw; 1.1.2–op; 1.2.2–aw; 1.3.7–aw; 1.3.9–aw; 3.2.2–op; 4.2.1–aw

 Check that the Certificate Holder's manual system contains procedures that when calculating fleet weight, if the operating weight of any aircraft weighed or the calculated operating weight of any of the remaining aircraft in the fleet varies by an amount exceeding plus or minus one-half of 1 percent of the maximum landing weight from the established operating fleet weight or the CG position varies more than plus or minus one–half of 1 percent of the MAC from the fleet weight CG, the aircraft shall be omitted from that group and operated on its actual or calculated operating weight and CG position. (The Federal Aviation Administration (FAA) will consider submissions by an operator that it is safe to go beyond the limits described in the preceding sentence without having to take that aircraft out of the fleet weight. If it falls within the limits of another fleet or group, it may become part of that fleet. For those cases in which the aircraft is within the operating fleet weight tolerance but the CG position varies in excess of the tolerance allowed, the FAA would accept an operator using the aircraft under the applicable operating fleet weight and with an individual CG position.)

Sources: AC 120–27C Paragraph 7 b (2) 8300.10 Volume 2, Chapter 74, Section 2, Paragraph 5B (8) Interfaces: All of 2.1; All of 7.1; 1.1.1–aw; 1.1.2–aw; 1.1.2–op;

1.2.2-aw; 1.3.7-aw; 1.3.9-aw; 3.2.2-op; 4.2.1-aw

 Check that the Certificate Holder's manual system contains procedures that when calculating fleet weight, weighing for reestablishment of fleet weights is normally conducted on a 3-year basis unless changes in aircraft configuration make it necessary to reweigh and/or recalculate CG sooner.

Sources: AC 120–27C Paragraph 7 b (3) 8300.10 Volume 2, Chapter 74, Section 2, Paragraph 5B (8)

Interfaces: All of 2.1; All of 7.1; 1.1.1–aw; 1.1.2–aw; 1.1.2–op; 1.2.2–aw; 1.3.7–aw; 1.3.9–aw; 3.2.2–op; 4.2.1–aw

• Check that the Certificate Holder's manual system contains procedures when using individual weights in computing the maximum certificated weight. It may extend the weight period for a particular model aircraft past the normal 36 calendar months, if pertinent records of actual routine weighing during the preceding period of operation show that weight and balance records maintained are sufficiently accurate to indicate aircraft weights and CG positions are within the cumulative limits specified in paragraph 7a of 8300.10 Volume 2 Chapter 74, Section 2. Such applications should be substantiated in each instance with at least two aircraft weighed. An increase should not be granted which would permit any aircraft to exceed 48 calendar months since the last weighing.

Sources: AC 120–27C Paragraph 7 d 8300.10 Volume 2, Chapter 74, Section 2, Paragraph 5B (8)

Interfaces: All of 2.1; All of 7.1; 1.1.1–aw; 1.1.2–aw; 1.1.2–op; 1.2.2–aw; 1.3.7–aw; 1.3.9–aw; 3.2.2–op; 4.2.1–aw

 Check that the Certificate Holder's manual system contains procedures when periodically weighing aircraft using fleet weights for a rotation program so all aircraft in the fleet will be weighed periodically.
 Sources: AC 120–27C Paragraph 7 e 8300.10 Volume 2, Chapter 74, Section 2, Paragraph 5B (8)

Interfaces: All of 2.1; All of 7.1; 1.1.1-aw; 1.1.2-aw; 1.1.2-op; 1.2.2-aw; 1.3.7-aw; 1.3.9-aw; 3.2.2-op; 4.2.1-aw

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Check that the Certificate Holder's manual system contains procedures
      for weighing aircraft including normal precautions, consistent with good
      practices which should be taken such as checking to insure the aircraft
      has the required items of installed equipment.
      Sources: AC 120–27C; Paragraph 7 f; ; 8300.10 Volume 2, Chapter
      74,; Section 2,; Paragraph 5B (8)
      Interfaces: All of 2.1; All of 7.1; 1.1.1-aw; 1.1.2-aw; 1.1.2-op;
      1.2.2-aw; 1.3.7-aw; 1.3.9-aw; 3.2.2-op; 4.2.1-aw

    Check that the Certificate Holder's manual system contains procedures

      for weighing aircraft including normal precautions, consistent with good
      practices which should be taken such as determining that the fluids are
      properly accounted for.
      Sources: AC 120-27C Paragraph 7 f 8300.10 Volume 2, Chapter 74,
      Section 2, Paragraph 5B (8)
      Interfaces: All of 2.1; All of 7.1; 1.1.1-aw; 1.1.2-aw; 1.1.2-op;
      1.2.2-aw; 1.3.7-aw; 1.3.9-aw; 3.2.2-op; 4.2.1-aw

    Check that the Certificate Holder's manual system contains procedures

      for weighing aircraft including normal precautions, consistent with good
      practices which should be taken such as the aircraft being clean.
      Sources: AC 120-27C Paragraph 7 f 8300.10 Volume 2, Chapter 74,
      Section 2, Paragraph 5B (8)
      Interfaces: All of 2.1; All of 7.1; 1.1.1-aw; 1.1.2-aw; 1.1.2-op;
      1.2.2-aw; 1.3.7-aw; 1.3.9-aw; 3.2.2-op; 4.2.1-aw
     • Check that the Certificate Holder's manual system contains procedures
      for weighing aircraft including normal precautions, consistent with good
      practices which should be taken such as the weighing is accomplished
      in an enclosed building.
      Sources: AC 120-27C Paragraph 7 f 8300.10 Volume 2, Chapter 74,
      Section 2, Paragraph 5B (8)
      Interfaces: All of 2.1; All of 7.1; 1.1.1-aw; 1.1.2-aw; 1.1.2-op;
      1.2.2-aw; 1.3.7-aw; 1.3.9-aw; 3.2.2-op; 4.2.1-aw
     • Check that the Certificate Holder's manual system contains procedures
      for a detailed listing of the items comprising empty weight and
      operating weight of each aircraft.
      Sources: AC 120-27C Paragraph 6 c 8300.10, Volume 2, Chapter 74,
      Section 2, Paragraph 5B(8)
      Interfaces: All of 2.1; All of 7.1; 1.1.1-aw; 1.1.2-aw; 1.1.2-op;
      1.2.2-aw; 1.3.7-aw; 1.3.9-aw; 3.2.2-op; 4.2.1-aw
     • Check that the Certificate Holder's manual system contains procedures
      for maintaining a complete, current, and continuous record of the
      weight and CG of each aircraft, which reflect all alterations and
      changes affecting either the weight or balance of the aircraft and will
      include a current equipment list.
      Sources: AC 120-27C Paragraph 15 8300.10, Volume 2, Chapter 74.
      Section 2, Paragraph 5B(8)
      Interfaces: All of 2.1; All of 7.1; 1.1.1-aw; 1.1.2-aw; 1.1.2-op;
      1.2.2-aw; 1.3.7-aw; 1.3.9-aw; 3.2.2-op; 4.2.1-aw
                                                                              ☐ Yes
1.16 If alternate procedures exist for use during irregular conditions, do the
                                                                              No, Explain
    alternate procedures provide an equivalent level of safety to achieve the
    same results as the primary procedures?
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		Not Applicable
		Applicable

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SAI Template

SAI SECTION 1 – PROCEDURES ATTRIBUTE –Drop Down Menu

- 1. No procedures, policy, instructions or information specified.
- 2. Procedures or instructions and information do not identify (who, what, when, where, how).
- 3. Procedures, policy or instructions and information do not comply with CFR.
- 4. Procedures, policy or instructions and information do not comply with FAA policy and guidance.
- 5. Procedures, policy or instructions and information do not comply with other documentation (e.g., manufacturer's data, Jeppesen's Charts, etc.).
- 6. Procedures, policy or instructions and information unclear or incomplete.
- 7. Documentation quality (e.g., unreadable or illegible).
- 8. Procedures, policy or instructions and information inconsistent across Certificate Holder manuals (FOM Flight Operations Manual to GMM General Maintenance Manual, etc.).
- 9. Procedures, policy or instructions and information inconsistent across media (e.g., paper, microfiche, electronic).
- 10. Resource requirements incomplete (personnel, facilities, equipment, technical data).
- 11. Other.

SAI SECTION 2 - CONTROLS ATTRIBUTE

Objective: Controls are checks and restraints designed into a process to ensure a desired result. The questions in this section of the data collection tool are designed to assist the inspector in determining if checks and restraints are designed into the process to ensure the desired result is achieved. Controls should be written into the manual system to ensure that the most important manual policies, procedures or instructions and information will be complied with.

Controls may be in the form of "administrative controls" which are secondary or supplemental written procedures. Like written procedures, administrative controls also need to provide answers to the associated who, what, when, where and how type questions. Controls may also be in the form of "engineered controls" such as automated features or mechanical actions or devices (i.e., safety devices, warning devices, etc.).

actio	ns or devices (i.e., safety devices, warning devices, etc.).	
Task	ks	
	To meet this objective, the inspector must accomplish the following tasks:	
1	Review the control questions below.	
2	Review the Certificate Holder's policies, procedures, instructions and infor an understanding of the controls that it has documented.	mation to gain
Que	stions	
	To meet this objective, the inspector must answer the following questions:	
2	Are the following controls built into the Weight and Balance Program:	
2.1	Is there a control in place to ensure that the Certificate Holder weighs its aircraft in accordance with its policies and procedures?	☐ Yes ☐ No, Explain
2.2	Is there a control in place to ensure that the Certificate Holder weighs its aircraft using calibrated equipment that is traceable to a national standard?	☐ Yes ☐ No, Explain
2.3	Is there a control in place to ensure that the Certificate Holder maintains complete and continuous weight and balance calculation records, which includes the effects of repairs and alterations?	☐ Yes ☐ No, Explain
2.4	Is there a control in place to ensure that the Certificate Holder has aircraft specific weight and balance information available for use by flight crews and dispatch?	☐ Yes ☐ No, Explain
2.5	Is there a control in place to ensure that the Certificate Holder amends its Weight and Balance Program to accommodate leased aircraft?	☐ Yes ☐ No, Explain
2.6	Is there a control in place to ensure that the contractor complies with the Certificate Holder's Weight and Balance Program?	☐ Yes ☐ No, Explain
2.7	Is there a control in place to ensure that the Certificate Holder maintains a current equipment list for each of its aircraft?	☐ Yes ☐ No, Explain
2.8	Is there a control in place to ensure that the Certificate Holder follows its pre–weighing instructions and requirements?	☐ Yes ☐ No, Explain
2.9	Is there a control in place to ensure that personnel are properly trained for the Certificate Holder's current Weight and Balance Program?	☐ Yes ☐ No, Explain
2.10	Is there a control in place to ensure that the Certificate Holder's operations specifications, paragraph E096, is properly referenced in its current Weight and Balance Program?	☐ Yes ☐ No, Explain

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2.11	Is there a control in place to ensure that the Certificate Holder weighs and reweighs their aircraft at intervals specified in their approved Weight and Balance Program?	☐ Yes ☐ No, Explain
2.12	Is there a control in place to ensure that the Certificate Holder properly rotates all aircraft when using periodic fleet weights to weigh its aircraft?	☐ Yes ☐ No, Explain
2.13	Is there a control in place to ensure that when aircraft were added to the fleet, the Certificate Holder has the initial empty weight and CG established in accordance with its procedures?	☐ Yes ☐ No, Explain
2.14	Is there a control in place to ensure that the Certificate Holder monitors/recalculates changes to the aircraft empty weight and center of gravity (CG)?	☐ Yes ☐ No, Explain
2.15	Does the Certificate Holder have a documented method for assessing the impact of any changes made to the controls in the Weight and Balance Program?	Yes No, Explain Not Applicable

7. Other.

SAI SECTION 2 – CONTROLS ATTRIBUTE
-Drop Down Menu
1. No controls specified.
2. Documentation for the controls do not identify (who, what, when, where, how).
3. Controls incomplete.
4. Controls could be circumvented.
5. Controls could be unenforceable.
6. Resource requirements incomplete (personnel, facilities, equipment, technical data).

SAI SECTION 3 - PROCESS MEASUREMENT ATTRIBUTE

Objective: Process measurements are used by the Certificate Holder to measure and assess its processes to identify and correct problems or potential problems and to make improvements to the processes. The questions in this section of the data collection tool are designed to assist the inspector in determining if the Certificate Holder measures or assesses information to identify, analyze and document potential problems with the process. Process measurements are basically a Certificate Holder's internal evaluation or auditing of the most important policies, procedures or instructions and information associated with an element.

To prevent the duplication of work that would otherwise occur, Process Measurements are most commonly addressed through a combination of auditing features contained in both the Certificate Holder's Safety Program/Internal Evaluation Program (for Operations and Cabin Safety related issues) and the auditing function of the Continuous Analysis &Surveillance System (for Airworthiness or Maintenance/Inspection related issues). The Director of Safety and the Quality Assurance Department often work in conjunction to accomplish this function for the Certificate Holder. This approach simply requires amendment of the Safety Program/Internal Evaluation Program audit forms or checklists and the Continuous Analysis &Surveillance System audit forms or checklists to include the specific process measurements for each element.

Tasks			
	To meet this objective, the inspector must accomplish the following tasks:		
1	Review the process measurement questions below.		
2	Review the Certificate Holder's policies, procedures, instructions and informan understanding of the process measurements that it has documented.	mation to gain	
Que	stions		
	To meet this objective, the inspector must answer the following questions:		
3	Does the Certificate Holder's Weight and Balance Program include the foll measurements:	owing process	
3.1	Process measurements that would reveal when the Certificate Holder failed to weigh its aircraft in accordance with its policies and procedures?	☐ Yes ☐ No, Explain	
3.2	Process measurements that would reveal when the Certificate Holder failed to weigh its aircraft using calibrated equipment that was traceable to a national standard?	☐ Yes ☐ No, Explain	
3.3	Process measurements that would reveal when the Certificate Holder failed to maintain complete and continuous weight and balance calculation records, which included the effects of repairs and alterations?	☐ Yes ☐ No, Explain	
3.4	Process measurements that would reveal when the Certificate Holder failed to provide aircraft specific weight and balance information to be used by flight crews and dispatch?	☐ Yes ☐ No, Explain	
3.5	Process measurements that would reveal when the Certificate Holder failed to amend its Weight and Balance Program to accommodate leased aircraft?	☐ Yes ☐ No, Explain	
3.6	Process measurements that would reveal when the contractor failed to comply with the Certificate Holder's Weight and Balance Program?	☐ Yes ☐ No, Explain	
3.7	Process measurements that would reveal when the Certificate Holder failed to maintain a current equipment list for each of its aircraft?	☐ Yes	

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3.8	Process measurements that would reveal when the Certificate Holder failed to follow its pre-weighing instructions and requirements?	☐ Yes☐ No, Explain
3.9	Process measurements that would reveal when the Certificate Holder failed to ensure personnel were properly trained for its current Weight and Balance Program?	☐ Yes ☐ No, Explain
3.10	Process measurements that would reveal when the Certificate Holder failed to properly reference its current Weight and Balance Program in its operations specifications, paragraph E096?	☐ Yes ☐ No, Explain
3.11	Process measurements that would reveal when the Certificate Holder failed to weigh and reweigh their aircraft at intervals specified in their approved Weight and Balance Program?	☐ Yes ☐ No, Explain
3.12	Process measurements that would reveal when the Certificate Holder failed to properly rotate all aircraft when using periodic fleet weights to weigh their aircraft?	☐ Yes ☐ No, Explain
3.13	Process measurements that would reveal when the Certificate Holder failed to have an initial empty weight and CG established in accordance with their procedures when aircraft were added to the fleet?	☐ Yes ☐ No, Explain
3.14	Process measurements that would reveal when the Certificate Holder failed to monitor/recalculate changes to the aircraft empty weight and CG?	☐ Yes ☐ No, Explain
3.15	Does the Certificate Holder document its process measurement methods and results?	☐ Yes ☐ No, Explain
3.16	Does the organization that conducts the process measurements have direct access to the person with responsibility for the Weight and Balance Program?	☐ Yes ☐ No, Explain

SAI SECTION 3 – PROCESS MEASUREMENT ATTRIBUTE -Drop Down Menu

- 1. No process measurements specified.
- 2. Documentation for the process measurements does not identify (who, what, when, where, how).
- 3. Inability to identify negative findings.
- 4. No provisions for implementing corrective actions.
- 5. Ineffective follow–up to determine effectiveness of corrective actions.
- 6. Resources requirements (personnel, facilities, equipment, technical data).
- 7. Other.

SAI SECTION 4 - INTERFACES ATTRIBUTE

Objective: Interfaces are used by the Certificate Holder to identify and manage the interactions between processes. The questions in this section of the data collection tool are designed to assist the inspector in determining whether or not interactions between the procedures, policies or instructions and information associated with other independent processes within the Certificate Holder's organization are documented. Written procedures, policies or instructions and information that are interrelated and located in different manuals within the Certificate Holder's manual system need to be consistent and complement each other. For the interfaces to be effectively managed, it is not only important to identify what the interfaces are, but it is imperative to document the specific location of the interfaces within the Certificate Holder's manual system.

Certificate Holder's manual system.			
Tasi	ks		
	To meet this objective, the inspector must accomplish the following tasks:		
1	Review the interfaces associated with the Weight and Balance Program the identified along with the individual questions in the Procedures Section (1) collection tool.		
2	Review the Certificate Holder's policies, procedures, instructions and infor an understanding of the interfaces that it has documented.	mation to gain	
Que	stions		
	To meet this objective, the inspector must answer the following questions:		
	NOTE: ALL EXPLANATIONS IN THE DROP DOWN MENU FOR "NO" ANS INCLUDE THE INDIVIDUAL QUESTION NUMBER FROM THE PROCEDU (1) OF THIS DATA COLLECTION TOOL AND THE ELEMENT NUMBER(S) INTERFACE(S) THAT WERE NOT ADDRESSED.	RES SECTION	
4.	Does the Certificate Holder's manual:		
4.1	Properly address the interfaces that are identified along with the individual questions in the Procedures Section (1)?	☐ Yes ☐ No, Explain	
4.2	Document a method for assessing the impact of any changes to the associated interfaces within the Weight and Balance Program?	☐ Yes ☐ No, Explain	
4.3	List additional interfaces identified during the accomplishment of this SAI.		
	·		

SAI SECTION 4 – INTERFACES ATTRIBUTE –Drop Down Menu

- 1. No interfaces specified.
- 2. The following interfaces not identified within the Certificate Holder's manual system:
- 3. Interfaces listed are inaccurate.
- 4. Specific location of interfaces not identified within the manual system.
- 5. Other

SAI SECTION 5 – MANAGEMENT RESPONSIBILITY & AUTHORITY ATTRIBUTE

Objective: The questions in this section of the data collection tool address the responsibility and authority of the process. They are designed to assist the inspector in determining if there is a clearly identifiable, qualified and knowledgeable person who is responsible for the process, is answerable for the quality of the process and has the authority to establish and modify the process. (The person with the authority may or may not be the person with the responsibility.)

· OOP	oriolomity.)	
Tas	ks	
	To meet this objective, the inspector must accomplish the following tasks:	
1	Identify the person who has overall responsibility for the Weight and Balan	ice Program.
2	Identify the person who has overall authority for the Weight and Balance P	Program.
3	Review the duties and responsibilities of the person(s), documented in the Holder's manual.	Certificate
4	Review the appropriate organizational chart.	
Que	estions	
	To meet this objective, the inspector must answer the following questions:	
5.	Are the following aspects of the Management Responsibility and Authority addressed in the Weight and Balance Program:	Attribute
5.1	Does the Certificate Holder's manual clearly identify who is responsible for the quality of the Weight and Balance Program?	☐ Yes ☐ No, Explain
5.2	Does the Certificate Holder's manual clearly identify who has authority to establish and modify the policies, procedures, instructions and information for the Weight and Balance Program?	☐ Yes ☐ No, Explain
5.3	Does the Certificate Holder's manual include the duties and responsibilities of those who manage work required by the Weight and Balance Program? SRRs: 121.135(b)(2)	☐ Yes ☐ No, Explain
5.4	Does the Certificate Holder's manual include instructions and information for those who manage the work required by the Weight and Balance Program? SRRs: 121.135(a)(1)	☐ Yes ☐ No, Explain
5.5	Does the Certificate Holder's manual clearly and completely document the authority for this position?	☐ Yes ☐ No, Explain
5.6	Does the Certificate Holder's manual clearly and completely document their qualification standards for the person having responsibility for the Weight and Balance Program?	☐ Yes ☐ No, Explain
5.7	Does the Certificate Holder's manual clearly and completely document their qualification standards for the person having authority to establish and modify the Certificate Holder's policies, procedures, instructions and information for the Weight and Balance Program?	☐ Yes ☐ No, Explain
5.8	Does the Certificate Holder's manual clearly and completely document the procedures for delegation of authority for the Weight and Balance Program?	☐ Yes ☐ No, Explain

SAI SECTION 5 – MANAGEMENT RESPONSIBILITY & AUTHORITY ATTRIBUTE -Drop Down Menu
1. Not documented.
2. Documentation unclear.
3. Documentation incomplete.
4. Other.